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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/669,535

09/24/2003

Cliff Evans

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04/22/2005

Intellectual Property Law Department
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EXAMINER

ESTRADA, ANGEL R

ART UNIT

PAPER NUMBER

2831

DATE MAILED: 04/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/669,535

Applicant(s)

EVANS ET AL.

Examiner

Angel R. Estrada

Art Unit

2831

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 March 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18, 42-45 and 47-49 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 6, 7 and 45 is/are allowed.
- 6) ☒ Claim(s) 1, 3, 4, 8-18, 42-44 and 47-49 is/are rejected.
- 7) ☒ Claim(s) 2 and 5 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Allowable Subject Matter

1. The indicated allowability of claims 11, 12, 14 and 17 is withdrawn in view of the newly discovered reference(s) to Koepke (US 5,015,207). Rejections based on the newly cited reference(s) follow.

2. Claims 6, 7 and 45 are allowed.

3. Claims 2 and 5 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is an examiner's statement of reasons for allowance: The primary reasons for the indication of the allowability of claims 2 and 5 are:

Regarding claim 2 is the inclusion therein in combination as currently claimed of the limitation of an electrical feedthru further comprising a channel formed in the external surface, wherein the electrical conductive transmission line is disposed in the channel and bonded thereto.

Regarding claim 5 is the inclusion therein in combination as currently claimed of the limitation of the mold is shaped to fit into a swage lock.

These limitations were found in claims 2 and 5 are neither disclosed nor taught by the prior art of record, alone or in combination.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 10, 1, 3, 4, 11-16, 47, 48 and are rejected under 35 U.S.C. 102(b) as being anticipated by Koepke (US 5,015,207).

Regarding claim 10, Koepke discloses an electrical feedthru apparatus (10) comprising: a core (20) comprising an electrical insulator (column 4 lines 37-40), the core (20) having an external surface (see figure 2a); an electrically conductive transmission line (30, 32) disposed across a portion of the external surface (column 4 lines 55-67); and a microchip (not shown) adhered to the core (20), wherein the microchip is electrically connected to the electrically conductive transmission line (column 3 lines 59-64 or column 4 lines 48-51 or column 5 line 55-59).

Regarding claim 1, Koepke discloses the electrical feedthru apparatus (10) further comprising an insulating mold (12, see figure 3b) disposed around the electrically conductive transmission line and the external surface (column 5 line 59-column 6 line 2).

Regarding claim 3, Koepke discloses the electrical feedthru apparatus (10), wherein the core (10) comprises an axial centerline (see figure 1), and wherein at least a portion of the electrically conductive transmission line (30,32) is not parallel to the axial centerline (see figure 1).

Regarding claim 4, Koepke discloses the electrical feedthru apparatus (10), wherein the core (10) is generally cylindrical (see figure 1 or column 4 lines 7-17).

Regarding claim 11, Koepke discloses an electrical feedthru apparatus (10) comprising: a core (20) comprising an electrical insulator (column 4 lines 19-20), the core (20) having an external surface (see figure 3a), an electrically conductive transmission line (30,32) disposed across a portion of the external surface (column 4 lines 55-67); and a sensor chip (not shown) adhered to the cores (20) wherein the sensor chip is electrically connected to the electrically conductive transmission line (30,32; column 3 lines 59-64 or column 4 lines 48-51).

Regarding claim 12, Koepke discloses an electrical feedthru apparatus (10) comprising: a core (20) comprising an electrical insulator (column 4 lines 19-20), the core (20) having an external surface (see figure 3); an electrically conductive transmission line (30,32) disposed across a portion of the external surface (column 4 lines 55-67); and a microchip (not shown) adhered to the core (20) and electrically connected to the electrically conductive transmission line (30,32; column 3 lines 59-64 or column 4 lines 48-51); wherein the core (20), the electrically conductive transmission line (30,32), and the microchip (not shown) are disposed in a MEMS sensor package (column 2 lines 20-25).

Regarding claim 13, Koepke discloses the electrical feedthru apparatus (10), further comprising a plurality of electrically conductive transmission lines (30, 32) spaced around the external surface (see figure 1).

Regarding claim 14, Koepke discloses an electrical feedthru apparatus (10) comprising: a core (20) comprising an electrical insulator (column 4 lines 19-20), the core (20) having an external surface (see figure 3a); a plurality of electrically conductive transmission lines (30,32) spaced around the external surface (see figure 1); an insulating mold (12) disposed over the electrically conductive transmission lines (30,32) and the external surface (see figure 3b); sensor chip (not shown) adhered to the core (20), wherein the sensor chip (not shown) is electrically connected to two or more of the plurality of conductive transmission lines (column 3 lines 59-64 or column 4 lines 48-51).

Regarding claim 15, Koepke discloses the electrical feedthru apparatus (10), wherein the electrically conductive transmission line (30, 32) is connected to a standard electrical connector (see figure 1, microchip).

Regarding claim 16, Koepke discloses the electrical feedthru apparatus (10), wherein the electrically conductive transmission line (30,32) is substantially flush with the external surface (column 4 lines 58-column 37).

Regarding claim 47, Koepke discloses the electrical feedthru apparatus (10), wherein the microchip (not shown) is wire-bonded to the electrically conductive transmission line (column 3 lines 59-64 or column 4 lines 48-51).

Regarding claim 48, Koepke discloses the electrical feedthru apparatus (10), wherein the sensor chip (not shown) is wire-bonded to the electrically conductive transmission line (column 3 lines 59-64 or column 4 lines 48-51).

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5. Claims 17, 42, 43 and 49 are rejected under 35 U.S.C. 102(b) as being anticipated by Hedden Jr. (US 3,148,356), hereinafter Hedden).

Regarding claim 17, Hedden, discloses an electrical feedthru apparatus (10) comprising: a core (12) comprising an electrical insulator (column 2 lines 15-38), the core (12) having an external surface (see figure 2), an electrically conductive transmission line (14) disposed across a portion of the external surface (see figure 2); an insulating mold (62,64 or see figures 7,8,10,11 and 13, defined by the printed circuit board) disposed over the electrically conductive transmission line (14) and the external surface; wherein the core (12) comprises a rod (column 2 lines 52-56) having a first diameter (see figure 2) and a shoulder wherein the rod comprises a second diameter (see figure 2) larger than the first diameter (see figure 2).

Regarding claim 42, Hedden discloses an electrical feedthru (10) comprising: a disk (see figure 13) comprising an electrical insulator (column 2 lines 15-38), the disk (see figure 13) having an external surface; and a plurality of electrically conductive transmission lines (14) disposed across a portion of the external surface (see figure 13); the disk extending between first and second distinct environments (see figure 13).

Regarding claim 43, Hedden discloses the electrical feedthru apparatus (10), further comprising a plurality of channels disposed in the external surface (see column 2 lines 57-63), wherein each of the plurality of electrically conductive transmission lines (14) is disposed thereto in one of the plurality of channels and is bonded (see figure 13)

Regarding claim 49, Hedden discloses the electrical feedthru apparatus (10), wherein the disk (see figure 13) and the plurality of electrically conductive transmission line (14) extend between two distinct environments of different pressure (see figure 11).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Koepke (US 5,015,207) in view of Bickford et al (US 6,506,083, hereinafter Bickford).

Regarding claim 8, Koepke discloses the mold (12) being made of an insulative material (column 5 lines 59-66), but lacks the mold comprising PEEK (polyetheretherketone). Bickford teaches an electrical feedthrough (2) having a mold

(14) being made out of PEEK (column 2 lines 45-51). It would have been obvious to one having ordinary skill in the art at the time the invention was made to make Koepke's mold out of PEEK as taught by Bickford, since PEEK is well known in the art as an excellent thermoplastic material that is hard and stiff with good thermal and mechanical properties.

7. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Koepke (US 5,015,207) in view of Hedden Jr. (US 3,148,356), hereinafter Hedden).

Regarding claim 9, Koepke discloses the electrical feedthru comprising a core made of an insulative material (column 4 lines 20-38); but lacks the insulative material being plastic. Hedden teaches an electrical feedthru having a core made of an insulative material, such as plastic. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use plastic as an insulative material to make Koepke's core as taught by Hedden since plastic is a suitable insulative material well known in the electrical art.

Note: the method of forming the device is not germane to the issue of patentability of the device itself. Therefore, this limitation "injection molded" has not been given patentable weight.

8. Claim 44 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hedden Jr. (US 3,148,356), hereinafter Hedden).

Regarding claim 44, Hedden discloses an apparatus (see figure 2) comprising: an electrical feedthru (10) the electrical feedthru (10) comprising: a disk (see figure 2) comprising an electrical insulator (column 2 lines 15-38), the disk (see figure 2) having

an external surface (see figure 2); and a plurality of electrically conductive transmission lines disposed across a portion of the external surface (see figure 2); wherein the disk (10) comprises a central axis wherein the plurality of electrically conductive transmission lines (14) is not parallel to the central axis (see figure 2); but Hedden lacks the disk having a gradually tapered first end. It would have been an obvious matter of design choice to change the shape of the feedthru to one having a gradually first end, since such a modification would have involved a mere change in the shape of a component. Where the instant specification and evidence of record fail to attribute any significance (novel or unexpected results) to a particular shape, a change of shape is generally recognized as being within the level of ordinary skill in the art. *In re Dailey*, 357 F.2d 669, 149 USPQ 47 (CCPA 1966). Furthermore, Hedden disclose that the feedthru can take a variety of cross sectional shapes (column 1 lines 47-48).

9. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Koepke (US 5,015,207) in view of Tower (US 6,111,198).

Regarding claim 18, Koepke discloses the electrical feedthru apparatus (10) wherein the electrically conductive transmission line comprises a metal material; but Koepke lacks the metal material being cooper. Tower teaches an electrical feedthrough (20) having a transmission line (130,135,140) made of copper (column 4 lines 63-67). It would have been obvious to one having ordinary skill in the art at the time the invention was made to Hedden's transmission lines out of cooper as taught by Tower, since copper is well known in the electrical art for its superior conductivity.

Response to Arguments

10. Applicant's arguments with respect to claims 1, 3, 4, 8-18, 42-44 and 47-49 have been considered but are moot in view of the new ground(s) of rejection.

In response to the applicant's argument, the applicant argues that Hedden (US 3,148,356) does not disclose a disk extending between first and second distinct environment. Examiner disagrees and points out that environments are distinct if at least one characteristic is different between them. Hedden discloses an electrical feedthru connected to a printed circuit board, one side of the printed circuit board can be open to atmosphere while the other can be located inside a housing by doing this it will create a different environment because the side of the printed circuit board located inside the housing is subjected to heat created by the electronic components inside the housing thus creating a different environment than the side that is open to atmosphere.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Seidel (US 5,635,847) and Lettenmayer (US 5,207,589) disclose an electrical feedthru apparatus.

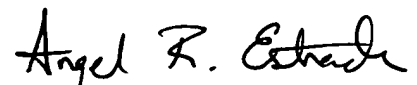
12. Any inquiry concerning this communication should be directed to Angel R. Estrada at telephone number (571) 272-1973. The Examiner can normally be reached on Monday-Friday (8:30 -5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dean Reichard can be reached on (571) 272-2800 Ext: 31. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

April 15, 2005


Angel R. Estrada
Patent Examiner
Art Unit: 2831